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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,669	03/19/2004	Darrell Gordy	1391-43100	8006
46133	7590	09/11/2006	EXAMINER	
CONLEY ROSE, P.C. PO BOX 3267 HOUSTON, TX 77253-3267			HUGHES, SCOTT A	
			ART UNIT	PAPER NUMBER
			3663	

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/804,669

Applicant(s)

GORDY ET AL.

Examiner

Scott A. Hughes

Art Unit

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) 13-18 and 37-51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 19-36, 52 and 53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/30/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                               |                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                                              | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/2/2006</u> . | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Response to Amendment***

Applicant's amendments are sufficient to overcome the objection to claim 29.

### ***Election/Restrictions***

Applicant argues that amended claims 52 and 53, which contain means for clauses and were grouped with the method claims in the prior restriction, are now proper linking claims. Applicant states that applicant would be willing to amend the withdrawn claims to include the "wireless" language used in the amended claims. The linking claims will be examined with the elected apparatus invention. The method claims are not rejoined, as the linking claims are not found to be allowable claims. See MPEP Section 809 and 809.03.

Claims 52 and 53 link(s) inventions I and II. The restriction requirement between the linked inventions is subject to the nonallowance of the linking claim(s) 52 and 53. Upon the indication of allowability of the linking claim(s), the restriction requirement as to the linked inventions shall be withdrawn and any claim(s) depending from or otherwise requiring all the limitations of the allowable linking claim(s) will be rejoined and fully examined for patentability in accordance with 37 CFR 1.104. Claims that require all the limitations of an allowable linking claim will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier.

Art Unit: 3663

Amendments submitted after final rejection are governed by 37 CFR 1.116;

amendments submitted after allowance are governed by 37 CFR 1.312.

Applicant(s) are advised that if any claim(s) including all the limitations of the allowable linking claim(s) is/are presented in a continuation or divisional application, the claims of the continuation or divisional application may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Where a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. In re Ziegler, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-12, 19-26, and 52-53 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-5, 8-12, 19, 25, 28-29, 32-36 and 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tulett in view of Naville (6175809).

With regard to claim 1, Tulett discloses a seismic source system. Tulett discloses a buoy 108 (Fig. 1) comprising an operating system ([0008]; [0026-0030]; [0039]; [0043]), a seismic wave production device 106 operated by the operating system ([0027-0028]), a placement system Fig. 1 ([0027-0032]), a buoy communications system ([0028]; [0031]), and a dynamic position locating system 224 generating a position signal indicating the location of the buoy ([0008]; [0032]). Tulett discloses a remote control system in remote communication with the buoy through the buoy communications system ([0008]; [0028-0032]). The float 108 disclosed by Tulett is read as being a buoy since he discloses that its purpose is to provide a buoyant force that keeps the seismic source at the surface and to control the position of the devices. The buoy communications channels that are between the buoy, airguns, and processors aboard the rig are read as being remote since they are located in different locations and connect the guns, sensors, controls, and processors together. The GPS broadcast is also a remote control system since it controls the firing of the guns and also transmits signals to the controller processor, and navigation systems. Tulett does not disclose that the buoy communication system is a wireless system and also does not disclose that the remote control system is a wireless remote control system in wireless communication with the buoy. Tulett teaches that the communication is conducted over wired communication lines, not wirelessly. Naville teaches a buoy used in seismic surveys that connects to a seismic source located in the ocean (Figs. 1-2) (abstract). Naville teaches that control systems and communication systems used in ocean seismic surveys with buoys can communicate by using wireless systems (abstract; Column 2,

Art Unit: 3663

Lines 1-30; Column 4, Lines 7-38) (Figs. 1-2). It would have been obvious to modify Tulett to include wireless communication systems and control systems as taught by Naville in order to allow for communication between parts of the system without the need for cables connecting the devices which may bend or break in the sea conditions. Wireless communication as taught by Naville also allows for devices to be interconnected over a distance where a cable can not be placed, and further allows for new devices to be added to the system without having to run wires to connect them to all other devices in the system.

With regard to claim 4, Tulett discloses that the seismic wave production device comprises an air gun 106 ([0027]).

With regard to claim 5, Tulett discloses that the operating system comprises an air storage vessel charged by a compressor controlled by a controller, the seismic wave production device comprising an air gun powered by the air storage vessel ([0031]).

With regard to claim 8, Tulett discloses that the buoy communications system further comprises a buoy telemetry system in remote communication with the remote control system ([0027-0031]; [0039]; [0043]). Tulett teaches that the communication is conducted over wired communication lines, not wirelessly. Naville teaches a buoy used in seismic surveys that connects to a seismic source located in the ocean (Figs. 1-2) (abstract). Naville teaches that control systems and communication systems used in ocean seismic surveys with buoys can communicate by using wireless systems (abstract; Column 2, Lines 1-30; Column 4, Lines 7-38) (Figs. 1-2). It would have been obvious to modify Tulett to include wireless communication systems and control

systems as taught by Naville in order to allow for communication between parts of the system without the need for cables connecting the devices which may bend or break in the sea conditions. Wireless communication as taught by Naville also allows for devices to be interconnected over a distance where a cable can not be placed, and further allows for new devices to be added to the system without having to run wires to connect them to all other devices in the system.

With regard to claim 9, Tulett discloses that the remote control system further comprises a remote control telemetry system in communication with the buoy communications system ([0027-0031]; [0039]; [0043]). Tulett teaches that the communication is conducted over wired communication lines, not wirelessly. Naville teaches a buoy used in seismic surveys that connects to a seismic source located in the ocean (Figs. 1-2) (abstract). Naville teaches that control systems and communication systems used in ocean seismic surveys with buoys can communicate by using wireless systems (abstract; Column 2, Lines 1-30; Column 4, Lines 7-38) (Figs. 1-2). It would have been obvious to modify Tulett to include wireless communication systems and control systems as taught by Naville in order to allow for communication between parts of the system without the need for cables connecting the devices which may bend or break in the sea conditions. Wireless communication as taught by Naville also allows for devices to be interconnected over a distance where a cable can not be placed, and further allows for new devices to be added to the system without having to run wires to connect them to all other devices in the system.

With regard to claim 10, Tulett discloses that the dynamic position locating system comprises a GPS system ([0008]; [0032-0033]).

With regard to claim 11, Tulett discloses that the buoy comprises an operating sensor 110 ([0027]; [0034]).

With regard to claim 12, Tulett discloses that the operating sensor comprises a hydrophone 110 ([0027]; [0034]).

With regard to claim 19, Tulett discloses a seismic acquisition system. Tulett discloses a buoy 108 (Fig. 1) comprising an operating system ([0008]; [0026-0030]; [0039]; [0043]), a seismic wave production device 106 operated by the operating system ([0027-0028]), a placement system (Fig. 1) ([0027-0032]), a buoy communications system ([0028]; [0031]), and a dynamic position locating system 224 generating a position signal indicating the location of the buoy ([0008]; [0032]). Tulett discloses a remote control system in communication with the buoy through the buoy communications system ([0008]; [0028-0032]). Tulett discloses a seismic receiver 103 located in a wellbore ([0030]). Tulett does not disclose that the buoy communication system is a wireless system and also does not disclose that the remote control system is a wireless remote control system in wireless communication with the buoy. Tulett teaches that the communication is conducted over wired communication lines, not wirelessly. Naville teaches a buoy used in seismic surveys that connects to a seismic source located in the ocean (Figs. 1-2) (abstract). Naville teaches that control systems and communication systems used in ocean seismic surveys with buoys can communicate by using wireless systems (abstract; Column 2, Lines 1-30; Column 4,



Lines 7-38) (Figs. 1-2). It would have been obvious to modify Tulett to include wireless communication systems and control systems as taught by Naville in order to allow for communication between parts of the system without the need for cables connecting the devices which may bend or break in the sea conditions. Wireless communication as taught by Naville also allows for devices to be interconnected over a distance where a cable can not be placed, and further allows for new devices to be added to the system without having to run wires to connect them to all other devices in the system.

With regard to claim 25, Tulett discloses that the seismic receiver is in communication with a data signal processor through a receiver telemetry system ([0028-0032]; [0039]; [0043]).

With regard to claim 28, Tulett discloses that the seismic production device comprises an air gun 106 ([0027]).

With regard to claim 29, Tulett discloses that the operating system further comprises an air storage vessel charged by a compressor controlled by a controller, the seismic wave production device comprising an air gun powered by the air storage vessel ([0031]).

With regard to claim 32, Tulett discloses that the buoy communications system further comprises a buoy telemetry system in remote communication with the remote control system ([0027-0031]; [0039]; [0043]). Tulett teaches that the communication is conducted over wired communication lines, not wirelessly. Naville teaches a buoy used in seismic surveys that connects to a seismic source located in the ocean (Figs. 1-2) (abstract). Naville teaches that control systems and communication systems used in

Art Unit: 3663

ocean seismic surveys with buoys can communicate by using wireless systems (abstract; Column 2, Lines 1-30; Column 4, Lines 7-38) (Figs. 1-2). It would have been obvious to modify Tulett to include wireless communication systems and control systems as taught by Naville in order to allow for communication between parts of the system without the need for cables connecting the devices which may bend or break in the sea conditions. Wireless communication as taught by Naville also allows for devices to be interconnected over a distance where a cable can not be placed, and further allows for new devices to be added to the system without having to run wires to connect them to all other devices in the system.

With regard to claim 33, Tulett discloses that the remote control system further comprises a remote control telemetry system in communication with the buoy communications system ([0027-0031]; [0039]; [0043]). Tulett teaches that the communication is conducted over wired communication lines, not wirelessly. Naville teaches a buoy used in seismic surveys that connects to a seismic source located in the ocean (Figs. 1-2) (abstract). Naville teaches that control systems and communication systems used in ocean seismic surveys with buoys can communicate by using wireless systems (abstract; Column 2, Lines 1-30; Column 4, Lines 7-38) (Figs. 1-2). It would have been obvious to modify Tulett to include wireless communication systems and control systems as taught by Naville in order to allow for communication between parts of the system without the need for cables connecting the devices which may bend or break in the sea conditions. Wireless communication as taught by Naville also allows for devices to be interconnected over a distance where a cable can not be placed, and

further allows for new devices to be added to the system without having to run wires to connect them to all other devices in the system.

With regard to claim 34, Tulett discloses that the dynamic position locating system comprises a GPS system ([0008]; [0032-0033]).

With regard to claim 35, Tulett discloses that the buoy comprises an operating sensor 110 ([0027]; [0034]).

With regard to claim 36, Tulett discloses that the operating sensor comprises a hydrophone 110 ([0027]; [0034]).

With regard to claim 52, Tulett discloses a system for generating a seismic wave (Figs. 2-3) (abstract). Tulett discloses a means for remotely controlling a placement system 214,108 (Fig. 2) on a buoy to position the buoy 108, the means for remotely controlling the placement system being in remote communication with the buoy through a buoy communication system ([0027]-[0032]). Tulett discloses a means for controlling an operating system on the buoy ([0008]; [0028-0032]). Tulett discloses a means for producing a seismic wave with a seismic wave production device 106 on the buoy ([0027]-[0032]). Tulett does not disclose that the communication system is a wireless system and also does not disclose that the remote control system is a wireless remote control system in wireless communication with the buoy. Tulett teaches that the communication is conducted over wired communication lines, not wirelessly. Naville teaches a buoy used in seismic surveys that connects to a seismic source located in the ocean (Figs. 1-2) (abstract). Naville teaches that control systems and communication systems used in ocean seismic surveys with buoys can communicate by using wireless

systems (abstract; Column 2, Lines 1-30; Column 4, Lines 7-38) (Figs. 1-2). It would have been obvious to modify Tulett to include wireless communication systems and control systems as taught by Naville in order to allow for communication between parts of the system without the need for cables connecting the devices which may bend or break in the sea conditions. Wireless communication as taught by Naville also allows for devices to be interconnected over a distance where a cable can not be placed, and further allows for new devices to be added to the system without having to run wires to connect them to all other devices in the system.

With regard to claim 53, Tulett discloses a system for acquiring seismic data on an underground formation (abstract, [0008]; [0025]). Tulett discloses a means for remotely controlling a placement system 214,108 (Fig. 2) on a buoy to position the buoy 108. Tulett discloses a means for controlling an operating system on the buoy ([0008]; [0028-0032]). Tulett discloses a means for producing a seismic wave with a seismic wave production device 106 on the buoy ([0027]-[0032]). Tulett discloses a means for transmitting a monitoring signal from the buoy to the means for controlling a placement system, the monitoring signal comprising the signature of the seismic wave as a function of time ([0034]-[0037]; [0041]-[0044]). Tulett discloses a means for transmitting a position signal from a dynamic position device on the buoy to the means for remotely controlling the placement system, the position signal indicating the position of the buoy at the time of generating the seismic wave ([0032]-[0033]). Tulett discloses a means for receiving the seismic wave 103 (Fig. 2) ([0027]). Tulett discloses a means for generating a data signal indicative of the received seismic wave ([0024-0027]). Tulett

Art Unit: 3663

does not disclose that the communication system is a wireless system and also does not disclose that the remote control system is a wireless remote control system in wireless communication with the buoy. Tulett teaches that the communication is conducted over wired communication lines, not wirelessly. Naville teaches a buoy used in seismic surveys that connects to a seismic source located in the ocean (Figs. 1-2) (abstract). Naville teaches that control systems and communication systems used in ocean seismic surveys with buoys can communicate by using wireless systems (abstract; Column 2, Lines 1-30; Column 4, Lines 7-38) (Figs. 1-2). It would have been obvious to modify Tulett to include wireless communication systems and control systems as taught by Naville in order to allow for communication between parts of the system without the need for cables connecting the devices which may bend or break in the sea conditions. Wireless communication as taught by Naville also allows for devices to be interconnected over a distance where a cable can not be placed, and further allows for new devices to be added to the system without having to run wires to connect them to all other devices in the system.

Claims 2-3 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tulett in view of Naville as applied to claims 1 and 19 above, and further in view of Haukjem.

With regard to claims 2-3 and 26-27, Tulett does not disclose that the seismic wave production device position is controlled by a winch engaged with an arm extending from the buoy. Haukjem discloses a similar seismic source suspended from

a buoyant float for use in seismic surveys (abstract; Fig. 1). Haukjem discloses arms including winches extending from the buoys that support the seismic sources that are suspended in the water (Fig. 3) (Columns 2-3). It would have been obvious to modify Tulett to include arms with winches as taught by Haukjem in order to control the depth of seismic sources in the sea, with the depth of each source controlled independently of the depth of the other source.

Claims 6-7 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tulett in view of Naville as applied to claims 1 and 19 above, and further in view of Detrick.

With regard to claims 6 and 30, Tulett does not disclose that the placement system comprises an anchor winch attached to an anchor by an anchor line, the anchor winch being controlled by the remote control system. Tulett discloses a buoy that is held from the top instead of anchored to the bottom. Detrick discloses a buoy used in marine seismic research that includes GPS and other communications equipment (Pages 1, 10, 28-31). Detrick discloses that these buoys include anchor lines attached to winches and anchors at the bottom of the ocean (Pages 1, 10, 28-38). It would have been obvious to modify Tulett to include anchoring the seismic buoys to the bottom as taught by Detrick in order to constrain the source to a desired area of survey. Tulett teaches that the communication is conducted over wired communication lines, not wirelessly. Naville teaches a buoy used in seismic surveys that connects to a seismic source located in the ocean (Figs. 1-2) (abstract). Naville teaches that control systems

and communication systems used in ocean seismic surveys with buoys can communicate by using wireless systems (abstract; Column 2, Lines 1-30; Column 4, Lines 7-38) (Figs. 1-2). It would have been obvious to modify Tulett to include wireless communication systems and control systems as taught by Naville in order to allow for communication between parts of the system without the need for cables connecting the devices which may bend or break in the sea conditions. Wireless communication as taught by Naville also allows for devices to be interconnected over a distance where a cable can not be placed, and further allows for new devices to be added to the system without having to run wires to connect them to all other devices in the system.

With regard to claims 7 and 31, Tulett does not disclose that the placement system further comprises more than one anchor winch attached to an anchor by an anchor line, the anchor winches being controlled by the remote control system. Tulett discloses a buoy that is held from the top instead of anchored to the bottom (Pages 1, 10, 28-31). Detrick discloses that these buoys include anchor lines attached to winches and anchors at the bottom of the ocean (Pages 1, 10, 28-38). It would have been obvious to modify Tulett to include anchoring the seismic buoys to the bottom as taught by Detrick in order to constrain the source to a desired area of survey. Tulett teaches that the communication is conducted over wired communication lines, not wirelessly. Naville teaches a buoy used in seismic surveys that connects to a seismic source located in the ocean (Figs. 1-2) (abstract). Naville teaches that control systems and communication systems used in ocean seismic surveys with buoys can communicate by using wireless systems (abstract; Column 2, Lines 1-30; Column 4, Lines 7-38) (Figs. 1-

2). It would have been obvious to modify Tulett to include wireless communication systems and control systems as taught by Naville in order to allow for communication between parts of the system without the need for cables connecting the devices which may bend or break in the sea conditions. Wireless communication as taught by Naville also allows for devices to be interconnected over a distance where a cable can not be placed, and further allows for new devices to be added to the system without having to run wires to connect them to all other devices in the system.

Claims 20-21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tulett in view of Naville as applied to claim 19 above, and further in view of Robbins.

With regard to claim 20, Tulett does not disclose that the seismic receiver is located on a drill string. Robbins discloses that it is known to place receivers on the drill string for seismic borehole sensing (abstract). It would have been obvious to modify Tulett to include receivers on the drill string as taught by Robbins in order to take data for VSP surveys.

With regard to claim 21, Tulett does not disclose that the seismic receiver is located on a wireline tool. Robbins discloses that receivers located on wireline tools are used in boreholes. It would have been obvious to modify Tulett to include a receiver on a wireline tool in order to take data when there is no drill string in the hole and the hole has already been drilled.



With regard to claim 23, Tulett does not disclose that the seismic receiver is located on a work string. Robbins discloses that it is known to place receivers on the drill string for seismic borehole sensing (abstract). It would have been obvious to modify Tulett to include receivers on the drill string as taught by Robbins in order to take data for VSP surveys.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tulett in view of Naville as applied to claim 19 above, and further in view of Bailey.

With regard to claim 22, Tulett does not disclose that the seismic receiver is located on a well casing. Bailey discloses that seismic receivers in boreholes are located on the casing (Column 2, Lines 55-65). It would have been obvious to modify Tulett to include sensors clamped to the casing in order to increase the signal strength from a signal that travels through the formation to the receiver on the casing.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tulett in view of Naville as applied to claim 19 above, and further in view of Norris.

With regard to claim 24, Tulett does not disclose that the seismic receiver is located in the annulus between a well casing and the borehole wall. Norris discloses placing receivers in the annulus ([0044]). It would have been obvious to modify Tulett to include receivers in the annulus as taught by Norris in order to be able to move the receivers to desired positions.

### ***Conclusion***

The cited prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott A. Hughes whose telephone number is 571-272-6983. The examiner can normally be reached on M-F 9:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3663

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SAH



JACK KEITH  
SUPERVISORY PATENT EXAMINER